

Ephemeris for Physical Observations of

Greenwich Noon.	Angle of Position of M's Axis. P	L-O.	Diff.	B	Annual Parallax. A-L.	Apparent Diameter.		
						Equat.	Phase.	Polar.
1892. July 30	337°119	249°189	88	+3°006	-11°533	42'07	0'43	39'46
Aug. 1	'136	'277	75	3°017	11°437	42'44	'42	39'72
3	'150	'352	62	3°028	11°328	42'71	'42	39'97
5	'163	'414	49	3°038	11°207	42'99	'41	40'23
7	'173	'463	36	3°048	11°072	43'26	'40	40'48
9	337°180	249°499	23	+3°058	-10°925	43'53	0'39	40'74
11	'185	'522	10	3°067	10°765	43'81	'39	41'00
13	'187	'532	3	3°076	10°591	44'08	'38	41'25
15	'187	'529	17	3°085	10°404	44'36	'37	41'51
17	'185	'512	30	3°093	10°203	44'63	'35	41'76
19	337°179	249°482	43	+3°101	-9°989	44'89	0'34	42'01
21	'171	'439	57	3°108	9°762	45'16	'33	42'26
23	'161	'382	70	3°115	9°522	45'52	'31	42'51
25	'148	'312	83	3°121	9°268	45'68	'30	42'75
27	'133	'229	96	3°127	9°001	45'94	'28	42'99
29	337°115	249°133	109	+3°132	-8°722	46'19	0'27	43'22
31	'095	249°024	121	3°137	8°430	46'43	'25	43'45
Sept. 2	'073	248°903	134	3°141	8°125	46'67	'23	43'68
4	'049	248°769	145	3°145	7°808	46'90	'22	43'89
6	337°023	248°624	157	3°148	7°479	47'12	'20	44'10
8	336°995	248°467	168	+3°151	-7°139	47'34	0'18	44'30
10	'964	248°299	179	3°153	6°787	47'55	'17	44'50
12	'932	248°120	190	3°154	6°424	47'75	'15	44'68
14	'898	247°930	200	3°155	6°051	47'93	'13	44'86
16	'863	247°730	209	3°155	5°668	48'11	'12	45'03
18	336°826	247°521	218	+3°154	-5°275	48'28	0'10	45'18
20	'787	247°303	226	3°153	4°873	48'44	'09	45'33
22	'748	249°077	234	3°151	4°463	48'58	'07	45'46
24	'708	246°843	242	3°148	4°045	48'71	'06	45'58
26	'667	246°601	248	3°145	3°620	48'83	'05	45'70
28	336°625	246°353	253	+3°141	-3°189	48'93	0'04	45'80
30	'583	246°100	258	3°137	2°752	49'02	'03	45'88
Oct. 2	'540	245°842	262	3°132	2°310	49'10	'02	45'95
4	'497	245°580	265	3°126	1°865	49'16	'01	46'01
6	'454	245°315	268	3°120	1°416	49'21	'01	46'05

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Physical Observations of Jupiter.

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Jupiter, 1892 (continued). By A. Marth.

Greenwich Noon.	Longitude of γ 's Central Meridian		Corr. for Phase.	Light- time.	$\Lambda - O.$	B
	(877° 0' 90") I.	(870° 1' 27") II.				
1892.				^m		
July 30	229° 40'	48° 90'	+ 0° 58'	38° 403	237° 6587	+ 2° 5948
Aug. 1	185° 26'	349° 50'	'57	38° 156	237° 8423	2° 6001
3	141° 13'	290° 12'	'56	37° 912	238° 0259	2° 6053
5	97° 02'	230° 74'	'55	37° 670	238° 2095	2° 6105
7	52° 92'	171° 37'	'53	37° 431	238° 3931	2° 6156
9	8° 82'	112° 02'	+ 0° 52'	37° 195	238° 5767	+ 2° 6207
11	324° 74'	52° 68'	'50	36° 962	238° 7603	2° 6258
13	280° 67'	353° 35'	'49	36° 732	238° 9439	2° 6309
15	236° 61'	294° 03'	'47	36° 506	239° 1275	2° 6360
17	192° 57'	234° 72'	'45	36° 285	239° 3111	2° 6410
19	148° 53'	175° 42'	+ 0° 43'	36° 068	239° 4948	+ 2° 6460
21	104° 50'	116° 13'	'41	35° 855	239° 6784	2° 6509
23	60° 49'	56° 85'	'39	35° 648	239° 8620	2° 6559
25	16° 48'	357° 59'	'37	35° 446	240° 0456	2° 6608
27	332° 48'	298° 33'	'35	35° 249	240° 2292	2° 6657
29	288° 49'	239° 08'	+ 0° 33'	35° 059	240° 4128	+ 2° 6705
31	244° 51'	179° 84'	'31	34° 875	240° 5964	2° 6753
Sept. 2	200° 54'	120° 61'	'29	34° 697	240° 7800	2° 6801
4	156° 58'	61° 39'	'27	34° 526	240° 9636	2° 68
6	112° 63'	2° 17'	'24	34° 362	241° 1472	2° 6897
8	68° 68'	302° 96'	+ 0° 22'	34° 205	241° 3308	+ 2° 6944
10	24° 74'	243° 76'	'20	34° 056	241° 5144	2° 6991
12	340° 81'	184° 56'	'18	33° 914	241° 6980	2° 7038
14	296° 88'	125° 37'	'16	33° 781	241° 8816	2° 7084
16	252° 95'	66° 19'	'14	33° 656	242° 0652	2° 7130
18	209° 03'	7° 01'	+ 0° 12'	33° 539	242° 2487	+ 2° 7176
20	165° 11'	307° 83'	'10	33° 431	242° 4323	2° 7211
22	121° 20'	248° 66'	'09	33° 332	242° 6159	2° 7256
24	77° 29'	189° 49'	'07	33° 243	242° 7994	2° 7301
26	33° 38'	130° 32'	'06	33° 163	242° 9830	2° 7346
28	349° 47'	71° 15'	+ 0° 04'	33° 092	243° 1666	+ 2° 7390
30	305° 56'	11° 98'	'03	33° 031	243° 3501	2° 7434
Oct. 2	261° 65'	312° 81'	'02	32° 980	243° 5337	2° 7478
4	217° 74'	253° 63'	'02	32° 938	243° 7172	2° 7522
6	173° 82'	194° 46'	'01	32° 908	243° 9007	

Greenwich Noon.	Angle of Position of M's Axis. P	L-O.	Diff.	B	Annual Parallax. A-L.	Apparent Diameter. Equat. Phase. Polar.		
1892. Oct. 8	336°411	245°047	270	+ 3°113	- 0°965	49"24	"00	46"08
10	368	244°777	270	3°105	0°512	49°26	...	46°10
12	326	244°507	270	3°097	- 0°058	49°26	...	46°10
14	284	244°237	270	3°088	+ 0°396	49°24	...	46°08
16	243	243°967	268	3°079	0°850	49°21	00	46°06
18	336°202	243°699	266	+ 3°069	+ 1°301	49°17	0°01	46°02
20	162	243°433	263	3°059	1°750	49°11	0°01	45°96
22	123	243°170	258	3°048	2°196	49°04	0°02	45°89
24	085	242°912	253	3°037	2°638	48°95	0°03	45°81
26	048	242°659	247	3°026	3°075	48°84	0°04	45°71
28	336°013	242°412	241	+ 3°014	+ 3°506	48°73	0°05	45°60
30	335°979	242°171	234	3°002	3°930	48°59	0°06	45°48
Nov. 1	946	241°937	225	2°989	4°347	48°45	0°07	45°34
3	914	241°712	217	2°977	4°756	48°29	0°08	45°19
5	884	241°495	208	2°964	5°156	48°12	0°10	45°04
7	335°856	241°287	199	+ 2°951	+ 5°547	47°94	0°11	44°87
9	829	241°088	188	2°938	5°929	47°75	0°13	44°69
11	804	240°900	177	2°925	6°301	47°55	0°14	44°50
13	781	240°723	166	2°912	6°662	47°34	0°16	44°30
15	759	240°557	155	2°899	7°011	47°12	0°18	44°09
17	335°739	240°402	142	+ 2°886	+ 7°349	46°89	0°19	43°88
19	720	240°260	130	2°873	7°675	46°65	0°21	43°66
21	703	240°130	117	2°860	7°988	46°40	0°23	43°43
23	688	240°013	104	2°847	8°288	46°15	0°24	43°19
25	675	239°909	90	2°835	8°576	45°89	0°26	42°95
27	335°663	239°819	77	+ 2°822	+ 8°850	45°63	0°27	42°70
29	653	239°742	63	2°810	9°110	45°36	0°29	42°45
Dec. 1	645	239°679	50	2°798	9°356	45°09	0°30	42°20
3	639	239°629	35	2°787	9°589	44°82	0°31	41°94
5	635	239°594	22	2°776	9°808	44°54	0°33	41°68
7	335°632	239°572	8	+ 2°765	+ 10°013	44°26	0°34	41°42
9	631	239°564	6	2°754	10°204	43°97	0°35	41°15
11	631	239°570	20	2°744	10°381	43°69	0°36	40°88
13	633	239°590	34	2°734	10°544	43°40	0°37	40°62
15	636	239°624	48	2°725	10°693	43°12	0°37	40°35
17	335°642	239°672	62	+ 2°716	+ 10°829	42°83	0°38	40°08
19	649	239°734	75	2°707	10°951	42°55	0°39	39°82

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Physical Observations of Jupiter.

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Greenwich Noon.	Longitude of \mathcal{M} 's Central Meridian		Corr. for Phase.	Light- time.	$\Delta-O.$	B
	(877°'90) I.	(870°'27) II.				
1892.				^m		
Oct. 8	129°90	135°28	°00	32°886	244°0843	+ 2°7618
10	85°98	76°10	...	32°875	244°2678	2°7661
12	42°05	16°91	...	32°874	244°4513	2°7703
14	358°11	317°71	...	32°883	244°6348	2°7745
16	314°17	258°51	°00	32°902	244°8184	2°7787
18	270°22	199°30	-0°01	32°932	245°0019	+ 2°7829
20	226°27	140°08	°01	32°972	245°1854	2°7870
22	182°30	80°85	°02	33°022	245°3689	2°7911
24	138°32	21°61	°03	33°082	245°5524	2°7952
26	94°33	322°36	°04	33°152	245°7359	2°7992
28	50°33	263°10	-0°05	33°232	245°9193	+ 2°8032
30	6°32	203°83	°07	33°322	246°1028	2°8072
Nov. 1	322°29	144°54	°08	33°421	246°2863	2°8111
3	278°25	85°24	°10	33°530	246°4697	2°8150
5	234°19	25°93	°12	33°647	246°6532	2°8189
7	190°12	326°60	-0°13	33°774	246°8366	+ 2°8228
9	146°04	267°26	°15	33°910	247°0200	2°8266
11	101°94	207°90	°17	34°054	247°2034	2°8304
13	57°82	148°53	°19	34°206	247°3868	2°8342
15	13°69	89°14	°21	34°367	247°5702	2°8380
17	329°54	29°73	-0°24	34°535	247°7536	+ 2°8417
19	285°38	330°30	°26	34°711	247°9370	2°8454
21	241°20	270°86	°28	34°895	248°1204	2°8490
23	197°00	211°40	°30	35°085	248°3037	2°8526
25	152°78	151°93	°32	35°282	248°4871	2°8562
27	108°55	92°44	-0°34	35°486	248°6704	+ 2°8598
29	64°30	32°93	°36	35°695	248°8538	2°8633
Dec. 1	20°03	333°40	°38	35°910	249°0371	2°8668
3	335°74	273°86	°40	36°131	249°2204	2°8703
5	291°44	214°30	°42	36°357	249°4037	2°8738
7	247°12	154°72	-0°44	36°588	249°5870	+ 2°8772
9	202°78	95°12	°45	36°823	249°7703	2°8806
11	158°43	35°51	°47	37°063	249°9536	2°8840
13	114°06	335°88	°48	37°307	250°1369	2°8873
15	69°68	276°24	°50	37°554	250°3201	2°8906
17	25°28	216°58	-0°51	37°804	250°5033	+ 2°8939
19	340°86	156°91	°52	38°058	250°6865	2°8972

Greenwich Noon.	Angle of Position of L's Axis. P	L-O.	Diff.	B	Annual Parallax. $\Delta - L$.	Apparent Diameter.		
						Equat.	Phase.	Polar.
^{1892.} Dec. 21	°658	239°809	89	2°699	11°059	42''27	''39	39''55
23	°669	239°898	102	2°692	11°153	41''98	''40	39''29
25	°681	240°000	115	2°685	11°234	41''70	''40	39''02
27	335°695	240°115	128	+ 2°678	+ 11°302	41''42	0°40	38°76
29	°711	240°243	141	2°671	11°357	41''14	''40	38°50
31	°729	240°384	154	2°665	11°399	40''87	''40	38°24
^{1893.} Jan. 2	°748	240°538	166	2°660	11°428	40''60	''40	37°99
4	°769	240°704	178	2°655	11°445	40''33	''40	37°74
6	335°792	240°882	190	+ 2°650	+ 11°450	40''06	0°40	37°49
8	°816	241°072	201	2°646	11°443	39''80	''40	37°24
10	°843	241°273	213	2°642	11°425	39''54	''39	37°00
12	°871	241°486	225	2°639	11°395	39''29	''39	36°76
14	°901	241°711	235	2°636	11°354	39''04	''38	36°53
16	335°933	241°946	246	+ 2°633	+ 11°302	38''79	0°38	36°30
18	335°967	242°192	256	2°631	11°239	38°55	''37	36°07
20	336°003	242°448	266	2°630	11°166	38°31	''36	35°85
22	336°040	242°714	276	2°629	11°083	38°08	''36	35°63
24	336°079	242°990	286	2°628	10°990	37°85	''35	35°42
26	336°120	243°276	295	+ 2°628	+ 10°887	37°62	0°34	35°21
28	336°164	243°571	304	2°628	10°775	37°40	''33	35°00
30	336°210	243°875	313	2°628	10°654	37°19	''32	34°80
Feb. 1	336°257	244°188	321	2°629	10°524	36°98	''31	34°61
3	336°306	244°509	330	2°630	10°386	36°77	''30	34°42
5	336°357	244°839	337	+ 2°631	+ 10°239	36°57	0°29	34°23
7	336°410	245°176	345	2°633	10°084	36°38	''28	34°05
9	336°465	245°521	353	2°635	9°922	36°19	''27	33°87
11	336°522	245°874	360	2°637	9°752	36°01	''26	33°70
13	336°581	246°234	367	2°640	9°574	35°83	''25	33°53
15	336°642	246°601	374	+ 2°643	+ 9°390	35°65	0°24	33°36
17	336°706	246°975	381	2°646	9°199	35°48	''23	33°20
19	336°772	247°356	387	2°649	9°001	35°32	''22	33°05
21	336°839	247°743	393	2°653	8°797	35°16	''22	32°90
23	336°908	248°136	398	2°657	8°587	35°00	''20	32°76
25	336°980	248°534	404	+ 2°661	+ 8°371	34°85	0°19	32°62
27	337°054	248°938	410	2°665	8°150	34°71	''18	32°48
Mar. 1	337°130	249°348		2°670	7°923	34°57	''17	32°35

May 1892.

Physical Observations of Jupiter.

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Greenwich Noon.	Longitude of 2f's Central Meridian		Corr. for Phase.	Light- time.	A-O.	B
	(877°'90) I.	(870°'27) II.				
1892.				^m		
Dec. 21	296°43	97°22	°53	38°314	250°8697	2°9004
23	251°99	37°51	°54	38°572	251°0529	2°9036
25	207°53	337°79	°55	38°833	251°2361	2°9067
27	163°05	278°06	°56	39°095	251°4193	+ 2°9098
29	118°56	218°31	°56	39°358	251°6025	2°9129
31	74°06	158°55	°57	39°623	251°7856	2°9160
1893.						
Jan. 2	29°55	98°78	°57	39°888	251°9687	2°9190
4	345°02	38°99	°57	40°154	252°1519	2°9220
6	300°48	339°19	-0°57	40°420	252°3350	+ 2°9250
8	255°92	279°38	°57	40°686	252°5181	2°9279
10	211°36	219°56	°57	40°952	252°7012	2°9308
12	166°79	159°73	°56	41°217	252°8843	2°9337
14	122°20	99°88	°56	41°482	253°0674	2°9366
16	77°60	40°02	-0°56	41°746	253°2504	+ 2°9395
18	33°00	340°16	°55	42°008	253°4334	2°9423
20	348°38	280°29	°54	42°269	253°6164	2°9451
22	303°76	220°40	°53	42°528	253°7994	2°9478
24	259°13	160°51	°53	42°785	253°9824	2°9505
26	214°49	100°61	-0°52	43°040	254°1654	+ 2°9531
28	169°84	40°70	°51	43°292	254°3484	2°9557
30	125°18	340°79	°49	43°541	254°5314	2°9583
Feb. 1	80°52	280°87	°48	43°788	254°7143	2°9609
3	35°85	220°94	°47	44°032	254°8972	2°9635
5	351°17	160°01	-0°46	44°272	255°0801	+ 2°9661
7	306°49	101°07	°44	44°509	255°2630	2°9686
9	261°80	41°12	°43	44°743	255°4459	2°9710
11	217°11	341°17	°41	44°972	255°6287	2°9734
13	172°41	281°21	°40	45°198	255°8115	2°9758
15	127°71	221°25	-0°38	45°420	255°9943	+ 2°9782
17	83°00	161°28	°37	45°637	256°1771	2°9805
19	38°29	101°31	°35	45°850	256°3599	2°9828
21	353°58	41°34	°34	46°058	256°5427	2°9851
23	309°86	341°37	°32	46°261	256°7255	2°9873
25	264°14	281°39	-0°31	46°460	256°9082	+ 2°9895
27	219°42	221°41	°29	46°653	257°0909	2°9916
Mar. 1	174°70	161°42	°27	46°841	257°2736	2°9937

The differences of successive values of the longitudes of \mathcal{U} 's central meridian vary for I. between $1755^{\circ}28$ and $1756^{\circ}09$, and for II. between $1740^{\circ}01$ and $1740^{\circ}83$.

The following is a list of Greenwich mean times, when the zero-meridian in the assumed two systems of longitudes will pass the middle of the illuminated disc. The times between successive passages vary for I. between $9^h 50^m.40$ and $50^m.67$, and for II. between $9^h 55^m.58$ and $55^m.85$.

I.		II.		I.		II.	
(877 $^{\circ}$.90)		(870 $^{\circ}$.27)		(877 $^{\circ}$.90)		(870 $^{\circ}$.27)	
1892.	h m	h m		h m	h m	h m	
July 31	9 4.7	4 25.1	Aug. 15	23 2.5	21 39.6		
	18 55.2	14 20.8	16	8 53.0	7 35.3		
Aug. 1	4 45.7	10 12.1		18 43.2	17 30.9		
	14 36.2	20 7.7	17	4 33.9	3 26.5		
2	10 17.1	6 3.4		14 24.3	13 22.2		
	20 7.6	15 59.0	18	10 5.2	9 13.4		
3	5 58.1	11 50.4		19 55.7	19 9.0		
	15 48.5	21 46.0	19	5 46.1	5 4.7		
4	11 29.5	7 41.7		15 36.6	15 0.3		
	21 20.0	17 37.3	20	11 17.5	10 51.6		
5	7 10.4	13 28.6		21 7.9	20 47.2		
	17 0.9	23 24.3	21	6 58.4	6 42.8		
6	12 41.9	9 19.9		16 48.8	16 38.4		
	22 32.3	19 15.6	22	12 29.7	12 29.7		
7	8 22.8	5 11.2		22 20.1	22 25.3		
	18 13.3	15 6.9	23	8 10.6	8 20.9		
8	4 3.7	10 58.1		18 1.0	18 16.5		
	13 54.2	20 53.8	24	3 51.5	4 12.2		
9	9 35.1	6 49.4		13 41.9	14 7.8		
	19 25.6	16 45.1	25	9 22.8	9 59.0		
10	5 16.1	12 36.3		19 13.2	19 54.6		
	15 6.5	22 32.0	26	5 3.7	5 50.2		
11	10 47.5	8 27.6		14 54.1	15 45.8		
	20 37.9	18 23.3	27	10 35.0	11 37.1		
12	6 28.4	4 18.9		20 25.4	21 32.7		
	16 18.8	14 14.5	28	6 15.9	7 28.3		
13	11 59.8	10 5.8		16 6.3	17 23.9		
	21 50.2	20 1.5	29	11 47.2	13 15.1		
14	7 40.7	5 57.1		21 37.6	23 10.7		
	17 31.1	15 52.7	30	7 28.0	9 6.3		
15	13 12.1	11 44.0		17 18.5	19 1.9		

		I.	II.			I.	II.
		(877°·90)	(870°·27)			(877°·90)	(870°·27)
1892.		h m	h m		h m	h m	h m
Aug.	31	3 8·9	4 57·5	Sept.	19	9 38·6	5 35·0
		12 59·3	14 53·2			19 29·0	15 30·6
Sept.	1	8 40·2	10 44·4	20	5 19·5		11 21·7
		18 30·6	20 40·0		15 9·9		21 17·3
	2	4 21·0	6 35·6	21	10 50·7		7 12·9
		14 11·5	16 31·2		20 41·1		17 8·5
	3	9 52·3	12 22·4	22	6 31·5		3 4·1
		19 42·7	22 18·0		16 21·9		12 59·7
	4	5 33·2	8 13·6	23	12 2·7		8 50·8
		15 23·6	18 9·2		21 53·1		18 46·4
	5	11 4·5	4 4·8	24	7 43·5		4 42·0
		20 54·9	14 0·4		17 33·9		14 37·6
	6	6 45·3	9 51·6	25	3 24·4		10 28·7
		16 35·7	19 47·2		13 14·8		20 24·3
	7	12 16·6	5 42·8	26	8 55·6		6 19·9
		22 7·0	15 38·4		18 46·0		16 15·5
	8	7 57·4	11 29·6	27	4 36·4		12 6·6
		17 47·8	21 25·2		14 26·8		22 2·2
	9	3 38·3	7 20·8	28	10 7·6		7 57·8
		13 28·7	17 16·4		19 58·0		17 53·4
	10	9 9·5	3 12·0	29	5 48·4		3 49·0
		18 59·9	13 7·6		15 38·8		13 44·5
	11	4 50·4	8 58·8	30	11 19·6		9 35·7
		14 40·8	18 54·4		21 10·1		19 31·3
	12	10 21·6	4 49·9	Oct.	1	7 0·5	5 26·7
		20 12·0	14 45·5			16 50·9	15 22·5
	13	6 2·4	10 36·7	2	2 41·3		11 13·6
		15 52·9	20 32·3			12 31·7	21 9·2
	14	11 33·7	6 27·9	3	8 12·5		7 4·8
		21 24·1	16 23·5			18 2·9	17 0·4
	15	7 14·5	12 14·7	4	3 53·3		2 55·9
		17 4·9	22 10·3			13 43·7	12 51·5
	16	12 45·8	8 5·8	5	9 24·5		8 42·7
		22 36·2	18 1·4			19 14·9	18 38·3
	17	8 26·6	3 57·0	6	5 5·2		4 33·8
		18 17·0	13 52·6			14 55·7	14 29·4
	18	4 7·4	9 43·8	7	10 36·5		10 20·6
		13 57·8	19 39·4			20 26·9	20 16·2

		I.	II.			I.	II.
		(877°·90)	(870°·27)			(877°·90)	(870°·27)
1892.		^h ^m	^h ^m			^h ^m	^h ^m
Oct.	8	6 17·3	6 11·8	Oct.	26	7 15·8	10 57·9
		16 7·8	16 7·3			17 6·2	20 53·6
	9	1 58·2	2 2·9		27	2 56·7	6 49·2
		11 48·6	11 58·5			12 47·1	16 44·8
		21 39·0	21 54·1		28	8 28·0	2 40·4
	10	7 29·4	7 49·7			18 18·4	12 36·0
		17 19·8	17 45·3		29	4 8·9	8 27·3
	11	3 10·2	3 40·9			13 59·3	18 22·9
		13 0·6	13 36·4		30	9 40·2	4 18·5
	12	8 41·4	9 27·6			19 30·6	14 13·1
		18 31·9	19 23·2		31	5 21·1	10 5·4
	13	4 22·3	5 18·9			15 11·5	20 1·0
		14 12·7	15 14·5	Nov.	1	10 52·4	5 56·6
	14	9 53·5	11 5·6			20 42·9	15 52·2
		19 43·9	21 1·1		2	6 33·3	1 47·9
	15	5 34·3	6 56·7			16 23·8	11 43·5
		15 24·7	16 52·3		3	2 14·2	7 34·8
	16	1 15·2	2 47·9			12 4·7	17 30·4
		11 5·6	12 43·5		4	7 45·6	3 26·0
		20 56·0	22 39·1			17 36·1	13 21·6
	17	6 46·4	8 34·7		5	3 26·5	9 12·9
		16 36·8	18 30·3			13 17·0	19 8·6
	18	2 27·2	4 25·9		6	8 57·9	5 4·2
		12 17·7	14 21·5			18 48·4	14 59·8
	19	7 58·5	10 12·7		7	4 38·8	10 51·1
		17 48·9	20 8·3			14 29·3	20 46·8
	20	3 39·3	6 3·9		8	10 10·2	6 42·4
		13 29·8	15 59·5			20 0·7	16 38·0
	21	9 10·6	11 50·7		9	5 51·1	2 33·7
		19 1·0	21 46·3			15 41·6	12 29·3
	22	4 51·5	7 41·9		10	1 32·0	8 20·6
		14 41·9	17 37·5			11 22·5	18 16·3
	23	10 22·8	3 33·1		11	7 3·6	4 11·9
		20 13·2	13 28·7			16 54·0	14 7·6
	24	6 3·6	9 19·9		12	2 44·5	9 58·9
		15 54·0	19 15·5			12 35·0	19 54·6
	25	1 44·5	5 11·1		13	8 16·0	5 50·2
		11 34·9	15 6·7			18 6·4	15 45·9

		I.	II.			I.	II.
		(877° 90)	(870° 27)			(877° 90)	(870° 27)
		h m	h m			h m	h m
1892.							
Nov.	14	3 56.9	1 41.5	Dec.	3	0 40.4	2 23.2
		13 47.4	11 37.2			10 31.0	12 18.9
	15	9 28.4	7 28.5		4	6 12.1	8 10.4
		19 18.9	17 24.2			16 2.6	18 6.1
	16	5 9.4	3 19.8		5	1 53.1	4 1.8
		14 59.9	13 15.5			11 43.7	13 57.5
	17	10 40.8	9 6.9		6	7 24.8	9 49.0
		20 31.3	19 2.5			17 15.3	19 44.7
	18	6 21.8	4 58.2		7	3 5.9	5 40.4
		16 12.3	14 53.9			12 56.4	15 36.1
	19	2 2.8	0 49.6		8	8 37.5	1 31.9
		11 53.3	10 45.2			18 28.1	11 27.6
	20	7 34.3	6 36.6		9	4 18.6	7 19.1
		17 24.8	16 32.3			14 9.2	17 14.8
	21	3 15.3	2 28.0		10	9 50.3	3 10.5
		13 5.8	12 23.6			19 40.9	13 6.3
	22	8 46.8	8 15.0		11	5 31.4	8 57.7
		18 37.4	18 10.7			15 22.0	18 53.5
	23	4 27.9	4 6.4		12	1 12.6	4 49.2
		14 18.4	14 2.1			11 3.1	14 45.0
	24	9 59.4	9 53.4		13	6 44.2	0 40.7
		19 49.1	19 49.1			16 34.8	10 36.5
	25	5 40.4	5 44.8		14	2 25.4	6 27.9
		15 30.9	15 40.5			12 15.9	16 23.7
	26	1 21.5	1 36.2		15	7 57.1	2 19.4
		11 12.0	11 31.9			17 47.6	12 15.2
	27	6 53.0	7 23.3		16	3 38.2	8 6.7
		16 43.5	17 19.0			13 28.8	18 2.4
	28	2 34.1	3 14.7		17	9 9.9	3 58.2
		12 24.6	13 10.4			19 0.5	13 53.9
	29	8 5.6	9 1.8		18	4 51.1	9 45.4
		17 56.2	18 57.5			14 41.7	19 41.2
	30	3 46.7	4 53.2		19	0 32.2	5 36.9
		13 37.2	14 48.9			10 22.8	15 32.7
Dec.	1	9 18.3	10 40.3		20	6 4.0	1 28.5
		19 8.8	20 36.1			15 54.6	11 24.2
	2	4 59.4	6 31.8		21	1 45.1	7 15.8
		14 49.9	16 27.5			11 35.7	17 11.5

R R

		I.	II.			I.	II.
		(877° 90)	(870° 27)			(877° 90)	(870° 27)
		h m	h m			h m	h m
1892.							
Dec.	22	7 16.9	3 7.3	Jan.	11	9 36.7	9 40.8
		17 7.5	13 3.0		12	5 17.9	5 32.4
	23	2 58.1	8 54.6		15	8.5	15 28.2
		12 48.7	18 50.3		13	0 59.2	1 24.0
	24	8 29.8	4 46.1		10	49.8	11 19.8
		18 20.4	14 41.9		14	6 31.1	7 11.4
	25	4 11.0	0 37.7		15	2 12.3	3 3.1
		14 1.6	10 33.4		12	3.0	12 58.9
	26	9 42.8	6 25.0		16	7 44.2	8 50.5
		19 33.4	16 20.7		17	3 25.5	4 42.1
	27	5 24.0	2 16.5		13	16.1	14 37.9
		15 14.6	12 12.3		18	8 57.4	10 29.6
	28	1 5.2	8 3.9		19	4 38.7	6 21.2
		10 55.8	17 59.6		14	29.3	16 17.0
	29	6 37.0	3 55.4		20	0 19.9	2 12.8
		16 27.6	13 51.2		10	10.6	12 8.6
	30	2 18.2	9 42.8		21	5 51.9	8 0.3
		12 8.8	19 38.5		22	1 33.1	3 51.9
	31	7 50.0	5 34.3		11	23.8	13 47.7
		17 40.6	15 30.1		23	7 5.1	9 39.4
					24	2 46.4	5 31.0
1893.					12	37.0	15 26.9
Jan.	1	3 31.3	1 25.9		25	8 18.3	11 18.5
		13 21.9	11 21.8		26	3 59.6	7 10.2
	2	9 3.1	7 13.3		27	9 31.5	12 57.6
	3	4 44.3	3 4.8		28	5 12.8	8 49.3
		14 34.9	13 0.6		29	0 54.1	4 41.0
	4	10 16.1	8 52.1		10	44.8	14 36.8
	5	5 57.3	4 43.8		30	6 26.1	10 28.4
		15 48.0	14 39.6		31	2 7.4	6 20.1
	6	1 38.6	0 35.4	Feb.	1	7 39.3	12 7.6
		11 29.2	10 31.2		2	3 20.6	7 59.2
	7	7 10.4	6 22.8		3	8 52.6	3 50.9
		17 1.1	16 18.6		4	4 33.9	9 38.4
	8	2 51.7	2 14.4		5	10 5.9	5 30.1
		12 42.3	12 10.2		6	5 47.2	11 17.6
	9	8 23.5	8 1.8		7	1 28.5	7 9.3
	10	4 4.8	3 53.4		8	7 0.5	3 1.0
		13 55.4	13 49.2				

I.			II.			I.			II.		
(877°·90)			(870°·27)			(877°·90)			(870°·27)		
1893.	h	m	h	m		h	m		h	m	
Feb. 9	2	41·8	8	48·5	Feb. 20	4	29·7		3	0·4	
10	8	13·8	4	40·2	21	10	1·7		8	48·0	
11	3	55·1	10	27·7	22	5	43·1		4	39·7	
12	9	27·1	6	19·4	23	1	24·4		10	27·2	
13	5	8·4	12	6·9	24	6	56·4		6	18·9	
14	0	49·8	7	58·6	25	2	37·8		2	10·6	
15	6	21·8	3	50·3		12	28·4		12	6·5	
16	2	3·1	9	37·8	26	8	9·8		7	58·2	
17	7	35·1	5	29·5	27	3	51·1		3	49·9	
18	3	16·4	11	17·1	28	9	23·1		9	37·4	
19	8	48·4	7	8·8	Mar. 1	5	4·5		5	29·1	

On page 367 of vol. xli. the corrections may be found which, when applied to the longitudes of \mathcal{U} 's central meridian, given in the ephemerides for the oppositions from 1875 to 1880, reduce them to the system of longitudes and the daily rate of rotation $870^{\circ}\cdot42$ adopted in the ephemeris for 1881-82, and continued for the succeeding two oppositions. This rate of rotation represented the average motion of the great reddish spot during the first years of its appearance. In consequence of the reported fading away of the spot the system of longitudes referring to it was abandoned in the ephemeris for 1884-85, and another system substituted, which was better adapted for the more quickly rotating equatorial spot, but the system referring to the great spot was re-introduced as system II. in the ephemeris for 1885-86, with the altered rate $870^{\circ}\cdot31$, and as the motion continued to slacken the rate was reduced to $870^{\circ}\cdot27$ in the next ephemeris, and has since been employed without alteration, the zero-meridian, however, being repeatedly shifted 10° . In order to reduce the longitudes of \mathcal{U} 's central meridian, deduced from the ephemerides, to the system of the present ephemeris, the following corrections must be applied :—

	Corr.	1883.	Corr.	1883.	Corr.
1882. Aug. 2	° + 31·6	Feb. 28	+ 0°·1	1883. Dec. 25	- 44°·9
Sept. 1	27·1	Mar. 30	- 4·4	1884. Jan. 24	- 49·4
Oct. 1	22·6	Apr. 29	- 8·9	Feb. 23	- 53·9
31	18·1	May 29	- 13·4	Mar. 24	- 58·4
Nov. 20	13·6	Sept. 26	- 31·4	Apr. 23	- 62·9
Dec. 30	+ 9·1	Oct. 26	- 35·9	May 23	- 67·4
1883. Jan. 29	+ 4·6	Nov. 25	- 40·4	June 22	- 71·9

For 1884–85 the longitudes of \mathcal{J} 's central meridian, corresponding to the present ephemeris, may be deduced from the following list:—

1884.		1885.		1885.	
Oct. 20	110°30	Jan. 13	284°81	Apr. 13	137°15
25	141°21	18	316°81	18	168°25
30	172°18	23	348°84	23	199°25
Nov. 4	203°21	28	20°89	28	230°16
9	234°31	Feb. 2	52°96	May 3	260°99
14	265°48	7	85°03	8	291°74
19	296°71	12	117°09	13	322°41
24	328°01	17	149°13	18	353°01
29	359°39	22	181°13	23	23°54
Dec. 4	30°83	27	213°09	28	54°01
9	62°35	Mar. 4	244°99	June 2	84°44
14	93°93	9	276°81	7	114°81
19	125°59	14	308°56	12	145°14
24	157°31	19	340°23	17	175°43
29	189°10	24	11°81	22	205°69
1885.		29	43°29	27	235°91
Jan. 3	220°95	Apr. 3	74°67	July 2	265°11
8	252°85	8	105°96	7	296°30

The differences of successive values vary between 4350°·19 and 4352°·07. The correction for phase is to be found in vol. xlv. p. 450. The longitudes of Dr. Terby's observations, made during this period, have been deduced from an ephemeris corresponding to those for 1887 and 1888, and must be increased 10°.

The corrections for the succeeding ephemerides are:—

	Corr.		Corr.
1885 Nov. 14	+ 10°0	1886 Dec. 9 to 1887 Sept. 5	} + 10°
1886 Jan. 13	+ 7°6	1887 Dec. 24 to 1888 Sept. 19	
Mar. 14	+ 5°2	1889 Feb. 26 to Oct. 24	} No corr.
May 13	+ 2°8	1890 Mar. 23 to Dec. 18	
July 12	+ 0°4	1891 Apr. 17 to 1892 Feb. 11	— 10°.